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Canada's Computer Information Source

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TECHNOLOGY IN THE
REAL WORLD

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Art looking deadline: Wednesday, July 23
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Technology in the real world



MEGAN JOHNSTON
EDITOR THE
COMPUTER PAPER

One of the interesting things about working for a magazine like TCP is having a front row seat to watch new technologies emerge. Our written lineup is stories on what's being cooked up in research and development labs or what's on the verge of hitting the market as a commercial product or service—these stories tend to relay the “promise” of a new technology.

The next cycle of coverage follows its release, when we see if it matches the hype, will it change the way we work, communicate, etc., or does it require a little more looking back at the lab?

Some products and services seem to disappear almost as quickly as they emerge. This was especially true following the burst of the dot.com bubble. Remember DigScent? That company was developing a personal computer peripheral that generated synthesized scent, which would be used to sell products online or to enhance and mediate. It made the cover of *Wired* magazine as its hype peaked, and earned the headline “Sniff company is a scratch” in the *Standard* corn as its future plummeted.

But all was not vapourware. Some technologies just didn’t make it in the commercial product category envisioned; they re-emerged in new guises. Voice recognition, for example, was very promising a few years back, with a string of commercial software packages targeting business users. Instead of all that typing and mousing, you created documents and navigated your PC and the Web using your voice. Though most of these products were abandoned, in practice they were somewhat corn because and required a lot of training—of the user and the software. During a demo of one company’s voice



software at TCP’s offices, the product manager (the person who knows a product inside and out, so they can “sell” it to journalists and vendors) couldn’t get through a dictation of a shopping list without making several corrections—and that product was hitting retail shelves as he spoke...an irony in it seemed impractical for serious use, unless typing was not an option for the user.

Though standalone voice-recognition products weren’t quite ready for prime time then, the technology has since been incorporated into a range of other products, for individuals (the Tablet PC platform is one example) Microsoft developments to include voice-input features, for example) and for large organizations (such as “smarter” automated customer service systems).

This month, we take a look at how some technologies are being used in the “real world”—in new and unusual ways.

MR: Digital Living

Here at Canada Computer Paper Inc., we’ve been doing a little research and development of our own. You’ll see the results beginning Sept. 5, when we launch a new national magazine, *MR: Digital Living*. It will replace the national magazine and *Tomorrow Computer*, bringing readers a completely redesigned monthly publication.

Long-time readers will have noticed that *The Computer Paper* has been expanding its coverage of the digital world beyond the personal computer for some time now. We’ve reviewed plasma TVs, digital audio equipment, and digital cameras and printers—many are devices that can be connected to a PC, but no longer have to be.

MR: Digital Living will reflect this direction, with a format that welcomes new technology users but still caters to tech-savvy readers. We will continue to deliver the independent, Canadian perspective on technology—adding a healthy dose of personal and home electronics into the mix—that has made this 15-year-old magazine a success.

In the meantime, the next issue of *The Computer Paper* in its current form, hits the streets Aug. 13.

Enjoy the issue,
Megan Johnston
Editor



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< COMMENTARY >

Switching layouts

Although I've not done networking at all, I read Emma Townsend's article "Mac: can no longer just talk amongst themselves" [CP July] in its entirety.



What got me hooked was the author next to Emma's picture which said "My name is Emma Townsend and I'm a Switcher." I am a potential switcher myself and I hope Emma will expand this short take on her Windows-to-Mac conversion into a full series. I'm sure there are many of us who would like to get the benefit of a switcher's experience before taking the plunge ourselves.

Ron Young

We Mac people have had a simple method of networking and file sharing PC data for years and it is to allow the PC to see the AppleTalk network ("Mac: can no longer just talk amongst themselves" [CP July]). Since CAT 5 cable between them, but the PC is loaded with PCMA(LAN, an inexpensive software from Winmat. Then the Mac's hard drive, or any other AppleLink network device, can be mounted or seen on the PC just like another hard drive or printer, etc. Perfect.

John Wilco

CP replies: For the third installment of *Mac: Making the Switch* series, which will appear in the September issue, Emma Townsend plans to look at this product.

Out of focus

I usually enjoy the many in-depth reviews you people do. The recent reviews of digital cameras (cover feature, CP-July) have me puzzled, however. No-one ever mentions aperture as a feature of a digital camera. To get that info, one usually has to go to the Web site of the manufacturer. I would appreciate it if you could get someone to write an article on lens apertures and quality of digital cameras and how they relate to the quality of the photos.

In SLR cameras, aperture and lens quality is one of the most important factors. But digital cameras come with such minuscule lenses that one has to worry the impact of lens size again from scratch.

The most annoying thing of digital cam-

eras no-one ever mentions is that they are great when you have bright light conditions as you do when working outdoors. But, they are the pits, when you're trying to take a photograph indoors at a distance of over 3 m (10 ft.). If you take them with a flash, you get the things or people in the foreground overexposed, and everything beyond 3 m underexposed. This is the same effect you would have had with a simple \$25 box camera!

Who cares for many megapixels if your picture is too dark?

Another factor often overlooked is the sharpness of the picture. After making many reviews on the Internet, I found that "blurry images" rank as the main complaint of many cameras. Usually this is related to the quality of the lens, occasionally to the focus mechanism. It seems that camera manufacturers figure that with such a small lens, they don't need the quality, as long as they have the megapixels.

So, please let's hear it from expert photographers. What are digital camera lenses really?

I have heard from one professional photographer that many of them are starting to buy digital bodies for their angry \$8k camera lenses.

Duke Dupac

Some background on backing up

I wanted to add a few words to Geoff Wheelwright's excellent article on the need to backup your mobile computer ("Don't keep all your eggs in one hard drive" [CP June]).

Of course the best protection against data loss is a good backup, along with a tested restore procedure. It is also true that we often neglect this and sometimes even backups go bad. All is not lost though, even in these situations.

Professional, in lab data recovery is available. In fact, the business directory of The Computer Paper shows several service providers of this kind and our company recovers lost data from hundreds of failed notebooks, desktops, servers and backups every month.

We have published a guide about data loss prevention and data recovery, available for free at our Web site (www.computerpaper.com).

Regards, Ron Austin

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WHAT'S NEW

Every now and then, a device comes along that is sure to draw a crowd, and this one seems to fit the bill. PrintDreams (www.printdreams.com) has developed what it calls **Printlinish**, a handheld printer that lays down text as rib size worms it across the page.



The company says that the device takes into account all thinkable parameters of hand movements, including rotations and speed changes, and produces a printed document just similar to its digital version. It's about the width of a mobile phone and the length of a pen, and it weighs about 150 g. We weren't able to try it out for a while yet—it isn't expected to hit the market until 2005—but we suspect it would be a good idea to stock up on ink before taking it out to nibble.

Handspring's (www.handspring.com) impending sale to Palm (the deal is expected to close this fall) apparently hasn't been too distracting—the company debuted its newest Treo at the



The **free 400** series offers an integrated QWERTY keyboard in a case that is smaller and narrower than previous free devices, making it more phone-like according to Handspring. The combined phone and PDA runs on Palm OS 5, offers messaging, email, and Web-browsing on a

color screen, and has a built-in VGA camera and an expansion slot.

The company is currently working with wireless service providers to customize the device—which can be built to operate on either CDMA or GSM/GPRS networks—for their respective networks and brand offerings. The devices are expected to hit store shelves this fall, but start coming now—they'll be the most expensive in the Two Bros.

If you spend a lot of time wearing a headset in front of your computer for voice chat, online gaming, or speech-recognition applications, wouldn't it be nice to have an option to the ubiquitous headset? How about *velvet*? Logitech's (www.logitech.com) new **Premium USB Headset 300** offers velvet ear pads, plus a few other comfort options like an adjustable headset and a noise-canceling microphone that can be worn on either the right or the left side. The new **USB Stereo Headset 300** also offers all these



Spotlight

As predicted (and as leaked on Apple's own Web site days before the official announcement), the PowerPC 68 processor was unveiled at the Worldwide Developers Conference (WWDC) in late 2000.



Chlorine and bromine
 Chlorine, bromine and iodine are found in seawater. Chlorine is essential for all plants and many animals. Iodine is essential for the thyroid gland. The most common salt is sodium chloride.

The company's 1991 earnings of \$10.04 (1990: \$10.00) rose to \$11.94 (\$1.70), and the company's 1991

options, except for the velvet. It's a little less expensive—US\$19.99 as opposed to the Premium's US\$49.99—but aren't your sneakers worth a little cashmere?

Rearranging lines on memory card space can really take the worry out of snapshotting, and as picture resolution improves, rates fill up faster. So Fujifilm's (smallfujifilm.com) has added a new 512 MB card to its xD-Picture Card lineup, the penny-size card (it measures up at 260,520,387 bits) needs at a rate of 5 Mbps and writes at a 3 Mbps, according to Fujifilm, and is designed to use minimal power. PC Card and CompactFlash adapters are available for those who'd like to use the card with devices without an xD-Picture Card slot. The xD-Picture Card format was developed by Fujifilm and Olympus, and introduced in September 2002. Olympus is also releasing a 512-MB version of the card this summer.



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Navigating the real world

Manufacturers drive development of telematics, in-vehicle wireless communications

By Shalene Myers

The first cell phones were often installed in car like stereos, drawing on the vehicle's battery and even using the horn to get the attention of a driver who had wandered away and was missing a call. Only 32 years ago, a Visitor to a construction site might be treated to the spectacle of a horn blowing in the parking area, triggering at least three guys to run madly back to their trucks to catch the call, unsure of which truck was calling.

Now that phones are smaller and we keep them in our pockets, there's no need for the mad dash, but there were and still are advantages to having wireless communications built into cars. The integration of wireless communications with the vehicle's information systems and a global positioning system (GPS), called telematics, could make driving safer and more convenient. According to the type, it could allow us to avoid many of the worst times during driving: traffic jams, bad weather, accidents, breakdowns, getting lost, and the futile search for parking spaces. The dream can be pretty reasonable, but the question is how much we are willing to pay for it.

What's available now

The most prominent option for those looking for telematics in their vehicle right now is the OnStar (www.onstar.com) package offered with many new GM models. OnStar, which must be factory installed, essentially combines a cellular phone, a GPS system, and a network of sensors in the car with a call center subscription service accessed through a set of three buttons. Looked your keys in your car? OnStar can unlock your car for you remotely. Lost your way? The call center operator can give you directions to get you back on track. But what is likely the most appealing to many subscribers are the safety features, including remote diagnostics to tell you if their engine light is signaling a problem serious enough to have you stranded.

Mike Walsh, marketing communications



Photo: Steve Delaney

trous manager for OnStar Canada, explains how the works: "If the owner of the vehicle presses the button and requests what we call a remote diagnosis, OnStar can connect to the vehicle but with a data connection instead of voice, and it can read the onboard computer and find out why, for example, that engine light came on." The operator can then look up the diagnostic code and advise the driver whether or not it's safe to keep driving.

A nudge at it initiates the airbag notification service OnStar offers. The spot features a crash, followed by an OnStar operator paging the driver through the system, sending emergency services to the scene when she hears no reply. The vehicle places an emergency call to OnStar automatically when the airbags are deployed.

According to Walsh, this function will be expanded in future vehicles. Advanced automatic crash notification will be rolled out starting with the 2004 Chevrolet Malibu, incorporating more sensors around the vehicle that will allow OnStar to tell emergency personnel where and how hard the vehicle was hit.

"One of the greatest causes of death from accidents are the injuries that [due to medical] don't see, things like internal bleeding," says Walsh, "and if they know that they could expect that type of

injury because of the type of accident, they would be much better off."

Essentially, OnStar is like an insurance policy—the most important features are the ones you hope you'll never need. And like an insurance policy, it can be somewhat painful to pay for.

The system itself will add about \$700 to the price of a vehicle and it often comes bundled with other options in a higher end package. The first year of service is included in the package. After that, drivers who wish to continue the service are offered a choice of three plans that range in price from \$24.95 to \$27.95 per month. Those who wish to use the OnStar service for hands-free personal calling can buy packages of prepaid minutes at rates ranging from 38 cents to 67 cents per minute, depending on the number of minutes and how soon they expire.

There is one limitation drivers should be aware of, especially if they do a lot of driving in remote areas: OnStar communicates via cellular phone signals only, so if you're out of cell phone range, you're out of the service's reach. While the GPS will continue to establish the vehicle's location, without a cell signal, there's no way to communicate the data to the call center. Walsh did point out, however, that because the system uses the vehicle's battery, which is stronger than the typical cell phone battery, it will allow driv-

ers to venture farther before dropping the signal.

Other options

There are alternatives to OnStar, though not many, and not usually on lower priced vehicles. Several manufacturers also offer DVD-based satellite navigation systems, but they tend to be available on luxury models, and can add several thousand dollars to the bottom line.

Mercedes-Benz offers Title Aid, a three-button system very similar to OnStar that comes standard on most of its models. A DVD- and GPS-based navigation system is also available on some models.

BMW offers Assist, which is also similar to OnStar and Title Aid, but which requires a vehicle with an on-board navigation system and an activated BMW cellular phone system. The service is priced at \$190 per year.

Lenox offers a DVD-based navigation system on some of its models, usually bundled with premium packages.

DVD- and GPS-based systems use a combination of mapping software, satellite positioning, and a small LCD screen mounted in the dash. Drivers receive their destination and receive routing advice from the system, much like having a paper map with the route highlighted. The helpfulness of a DVD-based system largely depends on the quality of the software, so car buyers planning to invest in a system should ask questions about the areas covered by the mapping software and try it out if at all possible.

The PrestoVibe, for example, has an option to add a DVD GPS navigational system, but the online information includes a caveat that at present, detailed street coverage is only available for Toronto, Montreal, Ottawa, and Vancouver. Considering the system will add about \$2,500 to the price of the vehicle, it's worth taking the time to be sure it will be useful.

What's possible

While the idea of getting quick help after an accident is comforting, avoiding the

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Navigating the real world

Continued from page 12

accident altogether would be an even better option. It's a vision that inspires ongoing research at Ford's Research and Advanced Engineering division.

Ron Miller, a physicist who graduated from MIT, has been with Ford for eight years. His specialty is intelligent vehicle technologies, and the results of his projects probably won't hit a car lot before 2005. "They're in telemetry, as he says: it's in 'real-time traffic and weather reporting,'" and Ford has partnered up with the Departments of Transportation in Minnesota and Michigan to figure out how to make it work.

Basically, the system involves three steps: data is collected from vehicles as they move through traffic; it's then sent wirelessly to digital messaging signs operated by the transportation departments; and then back to vehicles through a cell phone or radio signal as a real-time traffic message.

Miller says Ford is working with Delphi to develop a radio that would fit into vehicles and offer both a wireless wide area network (WLAN) and wireless

LAN. This would move the system away from a server-based system to a more decentralized virtual floating network, in which cars talk directly to each other.

"By having these vehicles talk to each other, multi-vehicle accidents are a thing of the past," says Miller, "because somebody slows their brakes on 500 in up in front of me, I normally don't see that until all the brake lights light, and then all of a sudden, I have to brake hard. If I knew that ahead of time, I would have slowed down in a non-aggressive manner, and the people around me would slow down in a non-aggressive manner, and we'd stop that collision or shock wave that happens when events occur on the highway. So it changes all the dynamics. It provides sustainable mobility, and it keeps people safe."

Safety is a key message in the discussions around telematics systems, and for good reason: studies have shown that safety issues are the strongest selling point in convincing car buyers to pay for the systems.

A survey released in October by Dausell-Walke Marketing and Research Consulting found that of those drivers

with GoStar or Tilt Aid (infused in Mercedes vehicles) installed who decided to renew the service after the first year, 93 percent cited the emergency notification feature as a motivator. And a study by J.D. Power and Associates released in December showed that consumers are more interested in safety-related technologies than they are in features that only add entertainment, comfort, or convenience.

What we need to figure out

But not everyone is convinced that telematics systems make vehicles safer. According to Transport Canada, as telematics become more common, they could make roads more dangerous, even for those without the systems installed. A discussion document published in the Canada Gazette in June argues that many of the devices are poorly integrated with the car's system or are too complicated and require a lot of visual attention, possibly distracting drivers to the point of causing accidents. Since the federal government has the power to regulate what is built into new vehicles sold in Canada, it wants Transport Canada

has put the industry on notice that the government is ready to step in and regulate the systems if it doesn't think vehicle manufacturers are doing enough to keep drivers focused on driving.

While the Transport Canada paper alleges that human factors, or the way users interact with the machines, are not adequately considered in the design and implementation of telematics devices in vehicles, Miller points to ongoing and extensive research Ford is doing in the area.

"We've got a tremendous effort in that," says Miller, adding that the company uses a full-motion simulator to test driver interfaces.

"You put people in the simulator, you have different tasks they have to perform, you look at eye glance, lane departure, even small lane departures."

Recognizing that there are any number of things that can affect driver focus, the timing program is not limited to advanced technologies. "It goes all the way down to, how do we set up the vehicle, not only from the advanced technologies we bring in there," says Miller.

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Navigating the real world

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but also "how far those technologies are from [my] reach" and then can I use them and am I affected by regular ambient conditions that are outside of the technology?"

Mike Walsh, of OnStar Canada, is quick to point out that his company's service is free of visual distraction. "There's a big difference between the kind of screen that OnStar provides and things like a cell phone or the navigation devices that have a screen," he says. "When OnStar provides directions, for example, there's nothing to look at except the road, and nowhere else to put your hands except on the wheel. So the person talking to you will give you the directions, and they can stay on the line with you as well, or just give you the directions and you can hang up. There's nothing to look at, really."

But visual devices may not be the only offenders. A University of Utah study published in the March issue of the *Journal of Experimental Psychology* found that drivers using cell phones,

even hands free models, are less able to process visual information due to "tunnel vision," and react more slowly to visual signals and changes in the driving environment.

GM claims its own research is based on precise, real-world situations and shows that use of the OnStar system while driving a safe. The company has the advantage of knowing exactly when an OnStar call streams with a crash serious enough to deploy airbags. In analyzing 4.1 million embedded cell phone calls to OnStar call centre advisers between October 1996 and May 2000, GM found that during only two calls were drivers on the phone at the time of a crash serious enough to deploy the airbags.

The debate is only just beginning. While those in favour of telematics point out that drivers who eat, read, and chat with passengers are also distracted, Transport Canada counters that while it is not in a position to regulate what drivers can bring into their vehicles with them, it is in a position to regulate what is built into the vehicle and how much of

that equipment is accessible and functional while the vehicle is moving.

What's it worth?

All the debate, hype, and debated issues may be moot if the industry doesn't manage to find answers to the billion-litre question: do people really want telematics in their vehicles, and are they willing to pay the associated costs?

OnStar has been available on 41 models for 2003, and will be expanded to seven more models in the 2004 lineup, but despite the relatively widespread availability, including entry-level models like the Pontiac Solstice and the Chevrolet Cavalier, the system is only installed on about 36 percent of new vehicles leaving GM lots. And of those who have the service, only about 50 percent renew it for the second year, once they have to start paying for the subscription. Subscribers who stick with the service for a second year are more likely to renew for the third year and beyond.

Ford partnered with Qualcomm in October 2000 to form Wigeat, a serv-

ice similar to OnStar, but then dropped the company last year without entering the market.

The new Ford-branded vehicles that offer call centre services now are supplied by a contract with ATK Technologies, a third party service provider that also works behind the scenes for Mercedes Tele Aid and BMW Assist.

While telematics hasn't expanded as rapidly as some predicted it would a few years ago, it seems that automotive companies have not given up completely. They're re-focused, concentrating on finding the magic combination of functions and price that will appeal to their customers. As part of this effort, they've joined forces to form a consortium to establish standards.

The Automotive Multimedia Interface Collaboration (AMI-C, at www.ami-c.org) is made up of most of the world's automotive manufacturers, and aims to establish standards for electronic components in vehicles that will result in lower costs and easier upgrades. □

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Simplifying security

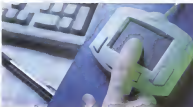
Biometrics offer solution to password proliferation

By Gail Wineswright

Biometric technology has been with us for many years, on television and in films. And pretty much any body part that you can think of has been used in a way of allowing machines to identify people—from fingerprints, hand, retina, and full-body scans to voiceprint analysis.

The downfall of passwords and IDs

So what does all this have to do with you? To answer that question properly, consider the requirements you currently have for establishing your identity in the digital world (and sometimes in the real world) that are based on some form of ID/password scenario. The ID can be something physical (such as a bank card) or merely a set of characters or numbers (such as the ID you might type in at an electronic banking Web site or on a Web mail service or an Internet café). The problem is that these scenarios are not



always secure.

Take, for example, the average corporate user ID/password combination that provides access to a company's network. Most corporate IDs are formed in one of several standard ways. The most common is the first letter of your first name and the whole of your last name (i.e.,

Smith for Jane Smith). If you work within a company, or are even familiar with those who do, you know how IDs are formulated and can accurately guess them.

Assuming there is little or no security around IDs, the effectiveness of your digital security is the simple ID/pass-

word world is going to depend on how secure your password is. Many people, however, choose their passwords for the sake of convenience. If you know a little about the people whose password you're trying to guess, it sometimes doesn't take much to figure it out.

Here are a few of the more common ones: spouse's name, children's names, pet's names, mother's maiden name, the word "password," the user's own middle name, the ID itself, and so on. The point is that ID/password technology in some cases may not be the most effective way to secure your computer or your network.

Password proliferation

As a user, ID/password combinations can be frustrating, considering the number you may have to remember and use in a day: a PIN for your bank debit card, security codes for your home and/or office alarm systems, separate IDs for accessing cell phone and other voice-

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(Continued from page 24)

mail, network passwords for your office and home computers, passwords for your e-mail and Web mail clients, the "unlock" code for your PDA, and on and on.

So what do you do? Write them all down somewhere so you don't forget them or make them all the same so that anyone who guesses the right password can "unlock" your whole life?

Anybody's solution

Oh, wouldn't it make sense to be able to eliminate at least some of the ID/password headaches in your life without compromising the security of your personal or business information?

With biometrics, there is nothing to remember. You can't forget your fingerprint, your eyes, or your face. You always have them with you—and should be able to easily produce them when asked. The real issue is whether or not biometric solutions make sense for the average home or small business user.

Biometrics for the home and small office

Do you really need a biometric security solution at your home or in your small business? The answer lies in three words:

security and convenience. The added security comes from knowing that only you—or those people you've selected—can access a biometrically protected system. That security also extends to the mobile environment. If you use a notebook computer or a PDA, there are a growing number of biometric options that allow you to ensure that the work you hold on your mobile system can be kept from hackers and computer thieves.

These solutions can also offer convenience by giving you at least one fewer ID/password combination to remember—thinning up those extra brain cells to remember more important information (such as your spouse's birthday). Only a handful of the wide range of biometric technologies are available to the home and small business PC user, although that number seems to be on the rise.

Common biometric solutions

Here's a breakdown of the most common biometric solutions based on recognizing a body part:

- **Fingerprint recognition:** It's one of those wonderful quirks of nature that no two human fingerprints are identical (perhaps at least until someone breaks the ban on human cloning). This type of system takes a picture of

your fingerprint and compares it to a previously taken picture of your fingerprint to see if the two match.

- **Face recognition:** This technology is more a software marvel than anything else. The hardware is fairly standard camera gear—although it must be said that the better the camera, the more accurate the results are likely to be. FaceIt, a solution from Minneapolis, Minn.-based Hecim, works by looking at the unique geometrical relationships within a face and comparing them to a known image of the individual. Others take a different approach: Massachusetts-based Viisage's face-recognition technology, for example, was developed at MIT and uses what it calls "signature" faces that may characterize of a person's face into a much-dimensional "face space."

- **Iris recognition:** The major applications so far have been aviation security, automatic border crossing, courts, database access, computer login, building entry, ATM's, and government programs.

Quiet-biometric solutions

There are also several quiet-biometric recognition systems that require you to


speak, type, or write something:

- **Voice identification:** Notice that this type of solution is called "voice identification" and not "voice recognition." While voice identification solutions need to recognize specific voices, their goal is to identify the speaker rather than what the speaker is saying. Voice ID solutions allow you to use your voice to give commands to your computer.
- **Handwriting identification:** Again, handwriting identification should be differentiated from handwriting recognition. The latter is designed to figure out what is written, while the former tries to establish the identity of the writer.
- **Keystroke authentication:** There are a few products based on this notion. The best-known is BioPassword (from Bellare, Wash.-based NetKasey Software), which turns the unique way you enter characters using a keyboard. It's based on the idea that "typing rhythm" is individual, so a computer will not be the same as a computer's owner.

Putting yourself in the biometric picture

The real key to figuring out which bio-


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Stealth, smoke, and steel

TCP Lab looks at theft prevention, recovery, and other security solutions

By Dave Chappelle

When you hear the term "computer security," you probably think of firewalls and antivirus applications. They are important products—something many of us have learned through experience [find more about these products in archived articles at www.Crutchfield.com].

Computer security also includes theft prevention and recovery for hardware and data. For that job, we've broadened our scope to include hardware and software products developed to prevent loss and assist with recovery of stolen hardware or data and to prevent unauthorized access and usage, data corruption, or inadvertent destruction.

The software

PC Phone Home/Mac Phone Home

From: Ingridian Software, www.pjcrush.com/index
Estimated price: \$119.95
Requires: Mac OS 9, OS X, Windows 9x/NT/2000/XP, modem (dialup or broadband)
PC Phone Home helps get your stolen computer back. Once the software is installed, it sends an email message every time the computer is connected to the Internet. During setup, the system requires your email address and outgoing mail server name. No email client (outbound program or application) is needed. It's OK to use your own email address; just make sure that if you change ISPs, you also change the info listed with PC Phone Home. The ownership information you provide during registration must be accurate if police are to be notified or legalities arise about providing false information on a warrant.

We used the same email address for sending and receiving, and each time we logged on, an email message appeared in the inbox within seconds. When connected on another telephone line using another ISP, it took about three minutes to receive the message. Dozens of information reports were sent stealthily, with-



Desktop lockdown. The range of security solutions and data-recovery tools include the SecureLock USB key. BCT's Stealth software creates the SecureLock image when an alien system is launched; the SecureLock USB key, which contains system access, and the image, a 10-megabyte file, which is hidden for the thief.

out any indication to the user that they were being used.

The email messages from PC Phone Home contained all of the information we provided during registration, plus the IP address, time connected, user name, serial number, and even the silly name we forgot we'd given the computer when we first installed the operating system.

As PC Phone Home requires email to work, you might think formatting the hard drive or deleting the partition would wipe out the program. Wrong! It remains hidden as a separate, phantom partition disguised as a bad sector. Even if that is deleted, several key files appear to reformat. Format and fdisk commands don't work if the program is properly installed. Registered users can, however, request a special uninstall program to remove PC Phone Home. The company reports that all 34 computers registered with PC Phone Home that have been stolen so far in 2003 have been returned. None were tampered with, reformatting, or re-partitioned.

The user's manual describes a technique to slow down a thief: make your CD drive the first boot device in your

system, and password-protect your BIOS settings. This prevents someone from using a floppy or CD to boot around the protection (many systems now ship with the CD-ROM drive set as the first boot option), and from readily changing the boot-drive order if it's possible to work around that protection, but it's more likely that many alerts will be sent before PC Phone Home is deleted.

We experienced one really annoying event. When not connected online, the dial-up networking adapter kept trying to dial a connection, repeatedly after we booted up the computer. After leaving, our computer running all night, we found dozens of dial-up attempts on our dialer—so many that we couldn't close them, and were forced to reboot. By experimenting, we learned that simply closing the first two automatic dial-up attempts solved the problem. Note if the program is configured for use with broadband, this should not occur.

A full version of the software can be downloaded from the PC Phone Home Web site, as can a free 30-day trial version for those who want to try before they buy. Enterprise versions are also available for organizations with several

computers. PC Phone Home has no monitoring fees or other costs.

SecureLock

From: SecureSoftware, www.securesoftware.com
Estimated price: \$100 (\$ key), \$270 (\$ key)
Warranty: 1 year
Requires: Windows 2000/XP, 1 MB disk space
A loss prevention device, SecureLock is a USB key/software solution for Windows 2000 and XP. (Note: Key is phantom indicator scale and is not part of SecureLock system.) When inserted into a USB port on your system, it performs user login authentication, file encryption, and storage for all of your passwords and login profiles. It can store this type of information for several users on the same system.

If the "key" is removed from the USB port, you will be prompted to insert it when you boot the computer. If you insert it before turning on the system, or did not remove it when you last shut down the computer, you'll be prompted to type in the PIN you selected during setup. The computer can't be accessed at all without the SecureLock USB key. As well, SecureLock blocks access after three incorrect PIN attempts. At this point, only an administrator can unlock it. Of course, if you've installed SecureLock on a stand-alone system that only you use, you are the administrator.

Right-click on a file name to encrypt it with either RC4 or Blowfish algorithm encryption. While it provides stronger encryption, Blowfish increases the size of files, so RC4 is recommended for large files.

Right-clicking also offers the option of locking a file for transfer on floppy disk or by email, or making it self-extracting. Simply right-click, select the encryption or lock you want, and choose a password. To read the file, the recipient must also know the password.

The Single Sign-On (SSO) feature allows you to store all your login names and passwords in one encrypted location. Each identity is stored under an icon with individual names. When you go to a Web site that requires a login,

simply drag and drop the appropriate icon onto the Web page and click to enter rather than typing in a name and password.

Unlike some USB keys, SecureLock is internally shielded to protect it from static electricity damage.

Kroll OnTrack Easy Recovery Lite

From Kroll OnTrack Inc.,

www.ontrack.com/easyrecovery/

Price: \$49 (List) \$39 (Data Recovery), \$89

(incl. \$129 6-yr. Repair)

Requires: 4MB or faster CPU, 750-MB disk space

Kroll OnTrack Easy Recovery lets you try your hand at recovering data lost due to corruption by viruses, accidental deletion, or drive failure. Easy Recovery probably won't cause a sudden decrease in business at professional data recovery labs—which OnTrack acknowledges by placing a "Caution Centre" icon on your desktop during installation, with a direct link to its lab and other services.

For our tests, we downloaded a version of Easy Recovery Lite (the 24.6-MB file requires 2.5 hours to download at 33.6 Kbps). Through an easy-to-use Windows interface, the program offers data recovery and file repair, and is subdivided into recovery from various events. Depending on what caused your data loss, you can choose Formatted, Deleted, Virus, Standard, and Raw data recovery. Separate sections exist for repairing damaged Word and Zip files. Straightforward instructions are at the top of each window. You can also use Easy Recovery Lite to make an emergency boot disk.

To recover a file, you must have two disks: a "bad" one with the damaged file, and a "good" one that Easy Recovery can write to. If not, you're gently reminded, "The destination path you have chosen is on the same partition. Please select a different destination."

We recovered both formatted and deleted files. Then we deleted and formatted again, and pressed the reset button on the system during a recovery, just to scramble things a bit. Using the Raw recovery function, which is reserved for the most extreme cases, our 400-KB Word file was fully restored, albeit with a different name. A small price to pay for what would have been lost otherwise. We'll have to say "we" recovered the data,

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*The Computer Papers, March, 2001



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DETECON Authenticator (available from the Targus site at mccarters.com), which comes in either USB (\$119) or PC Card (\$199) versions. One nice touch in the USB version is that a two-port USB hub is incorporated within it—meaning that you not only get extra security, you get an additional USB port.



Conclusion

In many ways, the commoditization of biometric technology is still very much in its infancy. A number of innovative biometric companies have recently been acquired, gone through mergers or struggled to gain further financing. Others have largely abandoned the retail market to focus on higher-priced solutions for industry or government.

At the same time, companies such as Florida-based Authentix have started supplying fingerprint identification solutions to computer manufacturers for as little as \$8 per unit, making it a relatively low-cost add-on to a mid-range notebook or desktop computer.

As demand grows—and competition in the struggling PC industry continues to intensify—it's likely that some form of biometric security will become common on many mid-range and higher-end systems. Over time, it may even become a standard feature on entry-level systems. And it is certainly looking like it will have strong appeal on more "personal" digital devices, such as mobile phones and PDAs.

So our final word of advice on looking for a biometric solution is: Great opportunity. You would do well to buy from a more well-known supplier, and, if you are planning to buy a new system in six months to a year anyway, think about waiting until then and buying a solution that has biometrics built in. □

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Kids in driver's seat of new wireless technologies

By Jeff Evans

About a year ago, I went to a Toronto media briefing on short messaging services (SMS), a wireless data technology that lets cell phone owners send and receive short text messages. A presentation showed how wildly popular SMS was in Japan and Europe, and how the Canadian telcos were finally getting these act together to make their next-generation cell phones "interoperable," allowing Canadian wireless phone users to communicate digital info with each other.

First, interoperable is good, and I didn't think much about it after that.

Then, this spring I began to notice an odd new behavior among many of my kids' high school and college age friends. They'd be talking with each other, then one would stop, pull out his or her cell phone, silently read something on the phone's screen, and tap in a quick reply.



Photo source: Reuters

They were using SMS, constantly, and as easily as they talked.

I asked around, and was told candidly that "everyone" with a cell phone was using SMS. Except me, evidently.

I talked with a couple of Canadian wireless industry experts, Todd Beaman, director of enterprise and mobile applications for Ericsson Canada (ericsson.ca), and David Neale, vice president of new product development at Rogers AT&T Wireless (rwmgrm.com), to find out what had happened to the technology and the market in the last six months.

Both Beaman and Neale, as it turned out, were very interested in what Canadian kids were doing with SMS. It turns out that there are two user groups driving much of the progress of wireless voice and data technologies around the world.

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A healthy perspective

By Sean Carrothers

Medicosciatry has become a part of pretty much every aspect of our daily lives, from cell phones to portable digital audio players, to navigation systems for our cars. The ongoing transformation of the technology is also helping people stay on top of their own health, right at home. We had a chance to look at a few new products that will help you stay healthy.

According to the Canadian Diabetes Association, over two million Canadians have diabetes, whether they know it or not. For people who are interested in taking control over regulating and monitoring their blood glucose, computerized monitoring technology is available in the palm of your hand. There are a number of palm-sized monitoring devices available from a handful of companies, so we looked at the OneTouch UltraSmart from Lifescan.

Das Neuch UltraSmart

From Lifecare Canada Ltd., www.lifecare.ca
Estimated price: \$86



The package comes with the glucose meter stick, a device that's a touch smaller than a deck of cards, as well as a sampler that holds a lancet on the end of a spring loaded trigger. You stick a test strip into the slot on the top of the meter, use the sampler to obtain a blood droplet from either your fingertip or

formers, and then apply the droplet to the end of the test strip, which is sticking out of the meter. The blood is sucked into the inner coat of the strip, where it meets with a small nap of electricity, and in about five seconds, the meter gives you a result.

What's nice about a monitoring system like this is that it allows you to add comments to results you take, including the food you've eaten, how you're feeling, and any exercise you've done.

As the blood glucose result is entered, the system is designed to display warnings or suggestions as appropriate—if your glucose is dangerously high or low, it will display a large warning on the LCD screen saying so, or if it's on the verge it may just recommend a snack. Also, along the bottom of the device are specific buttons to allow you to enter data at any time about exercise, general health, medications taken, and meals eaten. All of this allows you to better

track your blood glucose levels and how they react to various daily occurrences. The meter allows you to view the information either as log form or as a graph or chart.

The **OneTouch** UltraStream comes in a small shelf-case with a belt loop, so you can always have the kit handy whether you're at work, home, or out on a walk. Three AAA batteries are included, as is a 10-pack of sterile lancets. Testing strips are stored and sealed in the box, so no need to buy them separately. Also sold separately is a small cable interface that allows you to connect the meter to your computer, as well as **OneTouch** Management Software for your Windows PC. (Note: the retail price of the **OneTouch** UltraStream is \$99, but there are incentives available through qualified health professionals which can bring the price of the unit down to as low as \$29. Ask your DEC or doctor for more information.)

www.A CRAZY Computer.com

Note: χ^2 and p are calculated for $df = 1$.

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Centris Infrared Ear Thermometer

Centris Blood Pressure Monitor

From InterDN Canada www.interdn.ca

(suggested price: \$50 (thermometer), \$100 (blood pressure monitor))

Taking control of your health at home doesn't necessarily mean drawing and testing your own blood—there are always the clinics, and ways to make them even easier. Radco Shock's Centris brand now features two new products to do just that.

The Infrared Ear Thermometer looks almost like a tube of toothpaste, but with an LCD on one side and an infrared sensor on the tip. When you press the scan button on the side, the infrared sensor takes 342 readings within one second to determine your temperature. When done, the LCD shows your temperature along with a smiley face to emphasize how you're doing, a sad face if you're within a normal range, and an unhappy face if you're running a fever. A memory setting allows you to store 10 readings. The unit is powered by a single CR2032 watch-sized battery, and comes with a protective case for storage.



Centris also offers a new Blood Pressure Monitor, which you attach to your wrist using an inflatable wrist strap. All you have to do is make sure the back of the unit is properly positioned over your wrist's pulse point, press the button, and let it do its work. It inflates automatically, and takes your blood pressure and pulse as it deflates (for the record, mine is a touch higher than it should be, maybe I should take some time off).

It uses two AAA batteries (not included), which are a bit tough to install, but not impossible. The whole thing is stored in a reasonably small plastic case when not in use. ☐

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Plus! audio tools excellent, but video, photo utilities fall short

By Bruce Tomassoni

Microsoft claims that its Plus! Digital Media Edition is "the ultimate photo, music, and movie enhancement pack for Windows XP," but that's a little off the mark. The photo and movie enhancements amount to Plus! Photo Story, which rather lamely helps you unleash your inner Ken Burns; 50 new effects and transitions for Movie Maker 2; and an easy way to transfer media to Pocket PCs. Ultimate? Hardly.



Plus! Digital Media Edition

From Microsoft, www.microsoft.com

Price: \$34.99

System requirements: Windows XP

Microsoft would have done well to swap the photo and movie aspect and call this collection of Windows XP add-ons Plus! Digital Music Edition. Like the original Windows 95 Plus! pack, the programs are at times useful, gaudy, and irrelevant—but if your main concern is digital music, and you don't mind helping Microsoft's Windows Media Audio (WMA) make further gains on the MP3 format, the emphasis is on "useful."

My two favorite programs in the bundle are Plus! Analog Recorder and Plus! Audio Converter. (In fact, all of the included programs are "Plus!" something or other. I won't bother mentioning it again, I promise.)

Analog Recorder turns your tapes and records into digital audio files—something other programs have been doing for years, but never with this kind of simplici-

ty and elegance. After plugging your tape deck or amplifier into your sound card, Analog Recorder asks you to play one of the louder segments of the music you intend to record; it uses this to automatically set the highest recording level, it can get away with using without distortion. Then it's just a matter of clicking Record and playing your tape or record. When you're done recording, the program breaks everything up into separate tracks (you can recombine or further split them if necessary). All you have to do is apply pop and loss reduction, if you're so inclined, and provide data file track names, album title, and artist. The pop and loss filters are very simple—each one is either on or off—but they work well with most source material. If you're finicky, you'll want to stick with more advanced software.

Audio Converter doesn't do anything new, either—its sole purpose in life is to convert existing audio files to WMA. You could do the same thing with Microsoft's free Windows Media Encoder utility, but that's really geared for people who need fine control over their settings, want to create streaming media, or don't mind doing a little song-saw to handle multiple audio and video files. Audio Converter's spare but clear GUI enables anyone to easily convert whole folders of audio files to WMA with just a few mouse clicks.

The two other programs in the "useful" category are Alarm Clock and CD Label Maker. Both are flawed. Alarm Clock is a Windows clock radio, only with music from your collection instead of a radio station. You can set an alarm to repeat, increase in volume over time, or recognize a key as a "wake-up" option (which implies that your computer is a little too close to your bed). All of this is fine, but if you need to restart Windows, Alarm Clock doesn't restart with it—unless you have the presence of mind to go into the options and make sure it does.

CD Label Maker does what its name says, using playlists to generate a list of song titles. It's pretty straightforward, but

Continued on page 48



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• HANDS ON •

Macromedia's Fontographer enables fontaholic's addiction

By Frank Ieremie

Every graphic designer or desktop publisher has had a "lost moment." That's when the search for the perfect typeface has nearly driven them around the block. More than a little legitimate fear has been caused by this search. You can search through endless CDs and online libraries and spend hours looking for the perfect typeface among the thousands available, only to come up empty-handed.

Or even create a custom one-key signature.

All fonts are compatible with standard PC and Mac programs like Adobe Photoshop, CorelDRAW, Fontographer with Microsoft Word 3.0 or other 3D font manipulation packages further expands the creative possibilities.

Drop a bit of money into a fontagrabber and set a key, and you will be able to import that graphic into your documentation, creative work, and publications with a single keystroke and a couple of mouse clicks.

For the advanced typographer, Fontographer offers the opportunity (real challenge) of creating your own custom text typefaces. For the beginner or desktop publisher, it's a handy tool to expand the usefulness of your existing font collection.

It is easy to create individual characters and design in Fontographer if you have any experience with vector-graphics programs like Adobe Illustrator or Freehand. If not, there is a learning curve; it can be challenging, figuring out the different image formats required if you don't already have hands-on experience.

The documentation is simple and straightforward, however, with a way to follow tutorials included in the printed manual.

It's a little more challenging to beginners who will have to figure out such pre-requisites as metrics, leading, and leading, but the more you play with the fontagrabber, the faster you'll pick up the basics.

For Windows users, the interface is not totally intuitive. There are no mouse-over help tips on the buttons, and while the File is not frustrated, which can make figuring out the various tools a little challenging at first. These are documented in the accompanying manual, however.

Fontographer is compatible with Mac OS versions up to 9.2.2, as well as Windows 95, 98, and NT. However, the program is not compatible with Mac OS X, and those with systems running Windows 2000, ME, or XP may have compatibility issues. ☐

Frank Ieremie is a freelance writer, illustrator, and web technology guru. You can write to her at frank@frankieremie.com.



Fontographer 4.1
Font Macromedia, www.macromedia.com
Estimated cost: US\$199

Macromedia's Fontographer 4.1 can just as well be used to search, and increase the library of those fontaholics who don't believe you can be too rich, too creative or have too many fonts. Fontographer not only replace your font libraries or eliminate online searches, but it can dramatically enhance your creativity and speed up the process of custom typesetting.

You can start from scratch, completely create your own fonts, edit existing Mac and PC fonts, or modify the samples provided. Has your search for a "bold style" version of an already found font been long and fruitless? No problem. Just open the font as Fontographer and you can make and save the characters by degrees until you get the desired effect. You can even import your favourite fonts, and take out those little imperfections that have been making you crazy.

Never again will you have to search the Internet to find that wild four-year-painting in your attic.

Instead, you can take that time and create your own custom wing ding, font-

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Tel: 604.288.1080*restrictions apply, check details**= HANDS ON =****Plut audio looks excellent...***Continued from page 44*

no matter what you do if it won't print these song titles on a CD label, only on jewel case inserts.

Dancer fits somewhere between the "Trivial" and "questionable" categories; small digitalized dancers shake their groove things on the lower-left corner of your screen, getting fairly to whatever you've got playing. The dances are mildly entertaining, but their moves aren't always quite in time with the music, which can be jarring. You can still have fun with them, though—watching the b-boy Wade popping and locking to the thoroughly undanceable Ghost or the Steif soundtrack was almost hygienic. And watching the portly Ben dance (in a style that could only be called groovy white paj) to anything is a riot.

Then there's the Party Mode for Windows Media Player, which provides full-screen skins for Windows Media Player 8 and a few extra functions. The idea is that during a party, people can modify the playlist or add messages that will scroll on the screen, but they'll be locked out from the rest of the computer's files and functions. As someone who's handled party music responsibilities from the days of spinning vinyl, I can appreciate Party Mode's ease of use, but I have to wonder why more of the skins would allow me to display Windows Media Player's visualizations—the perfect party eye-candy—at full-screen resolution. For that matter, Microsoft dropped the ball by not allowing the Osborns to tap screens during Party Mode. That would be some rilly fun.

One notable aspect of Plut Digital Media Edition is that Microsoft seems to have lost the value of subtlety. All of these programs happily read and work with MP3 and WMA files, as well as WMA. Even the dancers don't mind working with RealOne Player, Winamp, or whatever you use to play digital music. But if you want to encode music or take advantage of volume leveling for playback, you're limited to the Windows Media Audio 9 Series format. You can decide for yourself if that's a price you're willing to pay for a visit to Microsoft's Hometown. **C**

Four years after the fact, Ben's lauded (mrdal@osborne) is still poking like it's 1999.

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Working on scenarios in Excel

Continued from page 50

different scenarios by adding a Scenario dropdown button to your toolbar. To do this, click View, Toolbars, Customized, and click the Commands tab. From the Categories list, click Tools, and from the Commands list, scroll down to locate the Scenario dropdown list. With your mouse drag this out of the dialog and up and onto one of your visible toolbars. Let go and the dropdown list box will appear on the toolbar. Click Close to exit the Customizer dialog.

Now you can view the results of applying any of the scenarios to the worksheet by choosing the scenario name from the Scenario dropdown list. If necessary, you can edit a scenario from the Scenario Manager dialog to change the figures it applies to your worksheet.

To do this, click Tools, Scenario, and click the scenario you want to alter. Click Edit and OK and you can change the figures in the dialog to your new choices. Click OK then Close to finish. Notice that when you edit a scenario, the original settings change permanently if you really want a different additional scenario instead, use Add rather than Edit. Only use Edit when you really want to discard

the original data.

You can also add new scenarios using your New Scenario dropdown list on your toolbar. To see how this is done, alter the worksheet so cells C3 to C8 display as follows: \$2,500, \$200, 0.4, and 18. This will set the scenario in which you double your monthly investment. To add this as a scenario, highlight cells C3 to C8, click the Scenario dropdown list and type Double-monthly payments, and press Enter. You'll now see that the new scenario appears in the dropdown with the other scenarios you created using the Scenario Manager dialog. View it as you would any other scenario by clicking its name.

Create a scenario summary

The scenario manager is a handy tool for displaying multiple scenarios. You can store data in it and, when you select a scenario to view, the tool will replace the current worksheet values with those it has stored for that scenario. Scenarios are saved with your worksheet so they'll always be available for viewing and printing.

It is also possible to summarize your scenarios into a handy table so you can compare the results of each scenario side by side. To create a summary worksheet,

click Tools, Scenario, and click the Summary button. From the Scenario Summary dialog, click the Scenario Summary option and ensure the entry in the Result Cells area is C8 (or later, Amount_saved). The results cell contains the figure you're interested in seeing—the amount we will have used if we apply these figures to our model. Click OK to continue.

A new worksheet will appear in your workbook containing the scenario summary report. This is a horizontal table that is already formatted nicely as Outline Tools. Click the "+" (play) and "-" (minus) buttons along the top and left of the worksheet to collapse or expand different parts of the summary to show more or less of your data. Each of the scenarios you create, as well as the values in the worksheet at the time you created the scenario report, will be displayed. Notice that the cell names you assigned earlier have been used as the new headings, so the information is easy to understand.

You can print this worksheet as you would any other Excel worksheet and even generate a chart from the results. To do this, drag over cells D1 to D3 (or E3 to E3 if the first column contains data from a scenario that appears elsewhere in the

table), then hold the Control key as you drag over cells D11 to D11 (or E11 to E11). Click the Chart Wizard button on the toolbar and step through the process of creating a chart from the data. The chart will show the final savings for each scenario.



Creating a chart from the scenario summary table is a very quick process.

As you can see, scenarios can be an important and useful addition to your Excel toolkit. Once you understand them, you'll find plenty of ways to use scenarios to analyze data, from calculating savings plans and mortgage repayments to stock and production estimates. ❑

John Bradley specializes in writing hands-on tutorials. His columns appear regularly in a number of publications in Australia, the UK, and the US. Contact John at john@interbuddy.com.

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< NEW & NOTABLE >

WHAT'S NEW

Continued from page 10

Version 7 is so, over, AOL has announced the release of AOL 8, the latest version of its online service, with new features the company says its users were asking for. The new version offers users an enhanced sorting function to help prioritize their email, and email attachment scanning from McAfee to reduce the threat of viruses. A new AOL Companion feature stays on the desktop to immediately alert users to email and instant messages, and offers one-click access to functions like Search and Favorites.

The company has also added AOL Entertainment Firsts, a service the company says will offer members exclusive first access to movie clips, clips from new TV shows, as well as premieres of new songs and music videos. Current members can upgrade by entering "upgrade" in the AOL keyword box. New members can download the software from aol.com/entertainment.

If you've been spending your cash on gadgets with built-in Bluetooth connectivity, but would rather not dig any deeper to buy a Bluetooth-enabled PC



to talk to them, here's another idea. Smart Modular Technologies (www.smartmod.com) is offering a **fourteenth enabled USB** adapter that the company says will add Bluetooth functionality to the PC and will allow users to create a personal-area network of up to eight Bluetooth-enabled devices. The adapter is compliant with Bluetooth 1.1 and USB 1.1, and comes at a suggested retail price of US\$34.95.

Continued on page 103



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Final Cut Pro 4's simple, versatile Soundtrack impresses



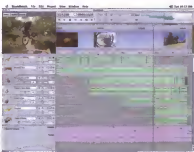
When Final Cut Pro 4 was released at 4 p.m. on June 24, there were parties at most Apple stores across the country. We attended one such event and had a chance to play around

with the new version. We came away very impressed, especially with the new Soundtrack program.

Soundtrack is an easy-to-use program that allows you to build soundtracks for your movies using hundreds of built-in samples and loops. You select the category you want from the sidebar, choose a clip, then drag it onto the timeline. In the timeline you can see all the layers of audio you are running, and can control the in and out points of each. We watched realists playing with Soundtrack, and within minutes they were creating simple, crisy compositions. Soundtrack will truly help novice editors give their projects a professional edge with their new compositions.

The other big new feature, which we also tried out, was LiveType. The built-in effects let slide some wild facts, animated type effects and backdrops, and it's very easy to create a complex animated title in a short time.

Both LiveType and Soundtrack are separate from the main Final Cut interface, and you can choose to install just the components you want. While the learning curve for both programs is easy, the requirements are quite steep. Final Cut Pro 4 ships on four DVDs, one each for Final Cut and Soundtrack, and two for



LiveType. We ran it down on a single-1 GHz G4 tower, and it seemed to run well, although the machine only had 256 MB of RAM, which clearly isn't enough for many of the real-time effects. While looking forward to seeing the new DVD Studio Pro 2.0 and trying out the integration between the two packages.

Final Cut Pro 4.0 is available now for \$2,499. DVD Studio Pro 2.0 will be available in August for \$729.

Price drops on all Apple laptops

Once again, Apple has announced an unexpected price drop, this time for its laptop line. It's good news for consumers and retailers alike, and laptop sales have seen a big boost in the past few weeks. There are several reasons for the drops, the first being the Backburner in the

Canadian/US dollar exchange rate. The recent rise in the value of the Loonie has been so drastic that the difference on some machines was more than \$100 between the U.S. and Canadian Apple stores.

The other reason for the drop, though, is the imminent release of a new 15.4-inch PowerBook G4, codenamed Aluminum. Although there has been some talk about a refresh to the 15-inch PowerBook since the 12-inch and 17-inch models debuted in January, it hasn't happened, in part because there was still plenty of stock in the channel. With price drops of up to \$800 on some models, it won't be long now before Apple has sold most of its stock of PowerBooks, making summer the perfect time to refresh the line.

We expect to see the Aluminum 15-inch G4 launch with features similar to the current 17-inch PowerBook and both the 12-inch and 15-inch PowerBooks to get slight speed bumps and bug fixes. In the meantime, now is a great time to get a deal on a PowerBook. The price changes are as follows:

Model	CPU	Drive type	Old price	New price
12-inch	867 MHz Combo		\$1,899	\$1,799
12-inch	867 MHz SuperDrive		\$1,899	\$1,799
12-inch	867 MHz Combo		\$1,999	\$1,899
12-inch	1 GHz SuperDrive		\$4,499	\$4,399
12-inch	1 GHz SuperDrive		\$4,599	\$4,499

There are a few important changes to note in the new pricing, particularly concerning the 12-inch model. It is now priced more like an iBook, which is a good thing considering its specs are more iBook than PowerBook. If the next revision of 12-inch G4 includes Level-3 cache, a DVD port, and FireWire 800 then it should go back up in price as a compact PowerBook. With its current feature set, the new price seems right when compared with a 900 MHz 17-inch iBook. Also, the 10-inch PowerBooks are the cheapest they've ever been, with the top of-the-line model available for well under \$4,000. They got the steepest price cuts because they are the most outdated model. But if you don't need Bluetooth, Airport Extreme or FireWire 800, a 1 GHz PowerBook 15-inch is a great machine. The model that replaces it is the revamped lineup is bound to be \$4,500 to \$5,000.

Continued on page 58

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Canon i520 Bubble Jet \$88	Samsung Laserjet 1210 \$235

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2162-2163	2163-2164	2164-2165	2165-2166
2166-2167	2167-2168	2168-2169	2169-2170
2170-2171	2171-2172	2172-2173	2173-2174
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• PLATFORM NEWS •

Final cut: Profit is double.

there is very little to release, but on the other hand Quark could have used the jump to OS X to freshen the user interface. People who have switched to Adobe InDesign 2 are not likely to switch back to Quark considering how little is new, but those who have been holding out for an OS X native Quark will be glad it's here. It will be available by the time this issue hits the streets, for \$1,299.

Praise for Disk Warrior 3

Another great product. **Skk Warrior** makes the jump to Q5.X, and as usual with these types of things it's only a few months later than promised.

Originally announced at Macworld in January, Disk Warrior 3 from Alsoft (www.alfsoft.com), was expected to ship in late February. February gave way to March, and then April, at which point the Macworld preview version we had received. With no updates from Alsoft in April or May, we began to wonder what was going on, and then without warning in the first week of June our final version of Disk Warrior 3 materialized.

Apple resellers also reported receiving large shipments in early June, although most were filling backorders for the first week at least.

So what's the big deal with the Dark Warrior 37? Not only is it one OS/2 machine, it's much faster, and lives even more problems than version 2. The primary reason behind its report to OS/2 had nothing to do with the software being outdated. Version 2.1, although it started up in OS/2 when booting from the CD, was fully capable of detecting and repairing all OS/2-related directory problems. The real reason was when Apple started to ship machines (128K and 128-megaword PowerBooks, 1 EMac 128K iMac, and the latest G4 Tower) that would only boot to OS/2. As they could it's based from the Disk Warrior CD, it didn't make repair seem too impossible. This main comparison, Notice Utilities 7, does run in OS/2, but it also boots into OS/2 when started from the CD.

Apple's OS X-only push left most users without a reliable means of repairing the drives for months while they waited to see who would be the first to address the issue. Without routine maintenance the OS can slow down, and if problems get severe enough you might even be pe-

sented with a flashing question mark on reboot. For a reasonable \$129, Disk Warrior 3 can save you several hours in the service department every year.

In addition to the start-up problem, when running Disk Warrior 2.1 on an OS X Mac, the program would get bogged down by the sheer number of files it had to crunch through. With an OS 9 system, it was common to have 20,000 to 40,000 files on a drive, which would take Disk Warrior about 15 to 20 minutes to scan. With OS X Jaguar installed, it's common to see 200,000 to 300,000 files on a hard drive which would take Disk Warrior 2.1 45 minutes to an hour to verify and repair.

The new version, *installit* completely as an OS X application, can now launch through an OS X boot volume in about 35 minutes, almost four times faster than its predecessor. *Install Warrior 3* includes a copy of 2.1 on the CD, in case you need to run it on a non-OS X Mac. The new version can be installed on your hard drive and can be used to repair your non-system drives, including external iSCSI or FireWire drives, but you must still reboot from the CD when you need to repair your startup drive.

Another neat new feature is the addition of SMART diagnostics which work with most new hard drives. The SMART tool can query the on-board diagnostics built into most drives sold in the past couple of years. If the SMART diagnostic thinks a drive is starting to fail it can notify you, usually in time to back up your data and replace the drive.

Overall, disk werner is a worthwhile upgrade. At this point, it's also the best disk repair utility for OS X on the market. One small disappointment is that *Mac Optimizer*, which used to be bundled with version 2.1, is no longer included. *Mac Optimizer* is a simple program that allows you to de-fragment your hard disk, but since no OS X version exists yet, it's no longer part of the bundle.

Then without Flare Optimizer, though, Ink Warrior 3 is a steal for \$229, Norton Utilities 7 is \$139 and, in our experience, did not cause as many problems. We'll see how the new Norton 8 stacks up when it's released later this summer.

Evik Warmer 3 should be considered a mandatory part of any Mac technicians tool kit. ☐

John Semons is a Nashville-based freelance writer. You can reach him at john@johnsemons.com.

FREE PARKING @ BACK

WillExpert aims for legacy of family harmony

By Jeff Davis

When I was a kid, I remember seeing at least a couple of pictures each year in the newspaper, showing people grappling in the dust on the sidewalks in front of funeral parlours, working out family problems related to the passing of a loved one.

WillExpert

From: <http://bit.ly/1a0u0at>

Price: \$19.95

Plus: Easy to use, informative, educational. Makes an often difficult task easier and less expensive. Cons: Requires compulsory online registration before you can proceed. Not compatible with Québec law, so use is limited to TROC (the rest of Canada). Requires some learning of terms and concepts to use most effectively. In some circumstances you may still need to get an opinion from a lawyer to ensure all glaring mistakes.

In my innocence, I couldn't understand what reasons there might be for people to behave in such a strange fashion at such a solemn moment. As the years have passed, I have begun to understand that the way we write our wills and plan the disposal of our "assets" (the sum of the property and other assets we own) can have a deep and lasting effect, for good or ill, on our family and friends. So, when I heard about WillExpert, a new Canadian will and estate planning software package from tax and finance publisher Intuit Canada, I was very intrigued.

According to Intuit Canada's Brad Stoenberg, WillExpert is designed to let any person easily plan, write, and print a

basic will and related documents, such as letters to executors and guardians, powers of attorney, and personal health care directives.

Stoenberg says about half of all Canadians have never completed a will, and of those written, many are never updated to account for changes in financial or personal circumstances. The results of a poorly written will can include deeply hurt feelings, anger, and conflict among surviving family members, and even substantial legal expenses to survivors squabble over the estate.

Intuit Canada saw a market demand, especially amongst baby boomers, for simple estate planning software and developed WillExpert.

According to Canadian estate planning experts and authors Les Kozner and Barry Frisk, there are good practical reasons to face up to the often difficult subject of making a will. "Planning ahead can often prevent, or at least minimize the risk of family fighting. Planning ahead can avoid costly court actions and it can ease the burden on your loved ones, if and when tragedy strikes."

Kozner and Frisk have published a well-reviewed book on estate planning, *The Family Fights: How to Avoid It*, (www.family-fights.com/avoidbook_intro.htm), which makes a convincing case for planning one's will carefully and promptly.

WillExpert incorporates Intuit's many years of experience designing intuitive user interfaces, offering a simple question and answer format for step-by-step creation of a legally sound, comprehensive will. The software was developed with the aid of Canadian will and estate

lawyers, and all its major features comply with Canadian law as applied everywhere but in Québec. (As much of the law governing estates in Québec is a provincial responsibility, a considerably different program would be required for use in the belle province.)

Out of the box

We installed WillExpert on a Compaq 5310 Pentium 4 computer running Windows XP Home Edition. Minimum system requirements are a 1.53 MHz Pentium, or equivalent, processor with 32 MB RAM, running Windows 95 or higher. Installation was simple: we inserted the CD and followed the installation program. WillExpert required online registration to be activated (if you don't have an Internet connection you can get your activation key by phoning Intuit). The software can only be used on one PC, and the license is limited to two limited wills.

The compulsory registration and limited user license, increasingly common with new software, is a bit irritating, but as with its tax software, Intuit is trying to ensure that one copy of software doesn't get passed around to unlimited users.

The program is fairly simple to use and is similar in concept to Intuit tax software in that it has been simple to use and tries to anticipate common questions. At every stage, WillExpert offers a wealth of answers to basic questions about wills and creates, definitions of legal terms, full-motion video advice snippets from experts, and simple onscreen forms.

There is still a learning curve so

WillExpert, though I'm not a legal expert, and it took me a while to understand the terms and concepts, and practical and legal requirements of even my very simple will. I spent a couple of hours clicking the Learn More button and reading through the program's Planning and User Guide. According to Intuit's Stoenberg, for many Canadians with fairly simple finances and limited property, WillExpert may be the only tool you need to create a decent, workable will and related documents. However, he cautions that in cases where the estate is fairly complex, or where the amounts of realty and property are substantial, it is still a good idea to show the finished will to a lawyer, to ensure that any glaring errors or omissions are corrected.

According to Stoenberg, if you have any particular questions about special circumstances—relative's disability, premarital, marital trust contracts, or other situations that might affect the disposition of an estate's assets, for example—ask a lawyer. A half-hour consultation for will still be a lot cheaper than the full cost of a lawyer writing your will from scratch, and in the course of using WillExpert, you'll have gained a lot more understanding and control over an important responsibility, and an opportunity to increase your family's long-term harmony and prosperity.

The best-kept will in history was composed by a Czech gentleman, who simply wrote a two word Czech phrase that means "all to wife." Intuit's WillExpert isn't quite that simple, but it's a big leap in the right direction. □

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Technology, Toronto, and the SARS outbreak

By Jeff Evans

It is perverse to think that Toronto, the nation's high-tech hub, and a major portal between Canada and the global economy, was the epicenter of the Severe Acute Respiratory Syndrome (SARS) outbreak in North America. A traveler from Hong Kong brought the disease into the city, and on March 7 he was, suffering from an unidentified respiratory illness, presented himself at Scarborough Grace Hospital, and was initially diagnosed with tuberculosis. By March 14, SARS' presence was confirmed, and it had begun to spread to health care workers, patients, and their families in Toronto.

The technological weakness of the Toronto Public Health department's disease control system was exposed, as it turned out that the department had failed to ever institute a comprehensive database for tracking communicable disease cases, despite sales pitches by database vendors over the years, not to mention the threat of lawsuits, since the terror attacks in Washington and New York on Sept. 11, 2001.

According to one Public Health official quoted by the Toronto Star and the CBC, at the beginning of the outbreak, records of all SARS patients, suspected patients, and quarantined persons were filed out by hand on paper forms, which were stored in cardboard boxes.

The task of trying to correlate the paper records in an attempt to track the route of SARS transmission, required manual comparison of many thousands of paper records, which took enormous

numbers of hours of manual labor.

Eventually, an Excel spreadsheet template was cobbled together, and disease transmission and quarantine records were manually entered. However, the template used by Toronto Public Health was incompatible with Excel templates or database forms used by other Canadian health agencies in the provincial and federal governments, as well as international health agencies including the World Health Organization and the U.S. Centers for Disease Control (CDC).

This necessitated manually typing or cutting and pasting the Toronto Excel spreadsheet information into other systems. Once the data was finally entered into a usable computer format, however, it became much faster and easier to trace transmission routes of the disease.

One outcome of the SARS episode is likely to be a belated attempt by Canada's national, provincial and municipal governments to put aside their endless IT turf wars, at least to the extent of adopting a truly interoperable database system for disease reporting tracking and control.

As SARS worked its way through some Toronto hospitals, many efforts on the technology industry and the financial industry also popped up.

On April 10, Hewlett-Packard Canada (www.hp.ca) stated that it had to send nearly 200 of its Toronto-area workers to home quarantine, allegedly after a worker who was exposed to the disease came to work despite being instructed to stay home in quarantine. As a result of the possible exposure of fellow workers to the virus, 197 HP staff (102 full-time



At the beginning of the outbreak, records of all SARS patients, suspected patients, and quarantined persons were filled out by hand on paper forms, which were stored in cardboard boxes.

employees and 95 contract workers, according to an HP Canada spokesperson) at a Markham facility were sent home for a quarantine period, while other HP Canada staff filed up.

Investment firm Merrill Lynch Canada (www.merrilllynch.com), which has its main offices in downtown Toronto, moved its key trading staff out of the downtown area to a backup facility in Streetsville, Ont., for several weeks, to avoid the possible risk of SARS exposure and quarantine of critical employees,

which could have had a crippling effect on the company's multimillion dollars per day investment business in Canada. A Merrill Lynch source claimed that the re-deployment was done as much as a test of the backup facility as it was a response to SARS.

The senior management of IBMX Corp. (www.ibm.com), the giant service master company that was founded in Taiwan, avoided coming to Toronto for a scheduled shareholders' meeting on June 6. Instead, they preferred to use a videoconference from New York to deliver the company's financial results, their charges appearing on an eight-story high screen in a Toronto hotel.

On June 9, software giant Microsoft (www.microsoft.com/press) announced that due to SARS fear it had changed the location of its annual partner event from Toronto to New Orleans. The event will go ahead on the originally planned date, October 9 to 12. To soften the blow to Toronto's already staggering tourism, hospitality and consumer industry, Microsoft promised to hold next year's partner event in Toronto.

According to financial analysts at investment firms JP Morgan and Merrill Lynch, the SARS outbreak centered in the Toronto area is expected to crimp Canada's national economic output, at least in the short term, by as much as 1.5 percent, compared to estimates of GNP growth prior to the outbreak.

However, SARS may also help drive a need for companies to deploy sensors.

Continued on page 77

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< TECH IN THE REAL WORLD >

Voice recognition helping customers connect

By Geof Wheelwright

Voice is becoming big business. This fact was very much in evidence at California-based Nuance's annual V-World user conference in San Francisco in late April. The company is a leader in voice recognition and speech applications, producing a range of solutions that are often used in corporate call-routing applications.

Rather than installing a system that requires users to "press one for this, press two for that," and so on, interactive voice-recognition (IVR) systems allow users to state what they want when they call a company and then have the IVR system route the call to where it needs to go. It not only allows customers to get their issues dealt with quickly, but corporations can process higher volumes of calls with lower levels of staff (in many cases can be answered with an automated response).

The theme of the conference was "accelerating the value of voice" (a getting-quick-return-on-investment), and one very interesting example of this came from representatives of Avon's CD division who gave a talk on how it is using voice recognition technology to evolve its business.

The cosmetics giant—which used to rely heavily on door-to-door sales agents—is currently undergoing a major corporate facelift as it struts through middle age and it is using the Web and voice recognition technology to do so. One of the fascinating things she revealed is that about 28 percent of Avon customers in the U.S. still use rotary dial telephones.

This means that when they dial into the Avon call centre, they have to wait through all the dial pad button option messages before they're put on hold to get through to a human operator. By using voice recognition technology, all these rotary-dial customers are now able to start getting help right away—and



One of the fascinating things she revealed is that something like 28 percent of Avon customers in the U.S. still use rotary dial telephones.

customer support agents can get through to the calls that really need human intervention more easily.

"Speech is adding substantial value to businesses around the globe" said Chuck Hedges, president and chief executive of Nuance. "From Avon in the United States to UBS in Switzerland and TELUS in Canada, companies are automating tasks, reducing costs, offering new revenue-producing services and saving themselves apart from the competition with speech. The return on investment for these speech solutions is staggering—many pay for themselves in a matter of months."

Industry analysts predict that revenue from voice-enabled services will reach \$1.4 billion by 2004 and analyst firms such as Gartner Group are listing speech recognition as one of 2003's top 30 "strategic technologies." One of the catalysts for market growth is the convergence of packaged speech applications that simplify deployment, reduce time-to-market, and, as mentioned already, speed up the return on investment. Showcased at V-World, Nuance Call

Silence of the fans: the quest for a quiet PC

By Steve George

How much noise is too much? When it comes to computers, it depends on who you talk to. To the dedicated gamer with her speakers cranked, noise may mean nothing at all. To the writer focused on his empty white Word document on his screen, even the hum of the power sup-

ply can sound like a jet taking off. For most of us, computer noise is annoying only when we become conscious of it, and as computers migrate from the home office into the living room or family room, we're becoming conscious of it more often than not.

We've been living with computer noise for so long it has become the background hum of our lives. Noise, we are

led to believe, is the price we pay for performance. Look at the evolution of today's CPUs—even over the last couple of years—and it's easy to see why Intel's Pentium III Coprocessor (300 to 750 MHz) output 13 to 19 watts, compared to 49 to 75 watts for the early Pentium II (1.3 to 1.3 GHz), and 42 watts and more for the Pentium 4.0 GHz chip. AMD chips follow a similar evolutionary path. Think of placing your hand around a 400 watt light bulb. Guilty! All of these chips take some powerful cooling, and that means fans, and that means noise.

High performance CPUs and the fan required to cool them aren't the only source of computer noise, of course, and in some cases may not even be the primary cause. Noise tends to come from five distinct sources: the hard drive, the power supply and its fan, the CPU and its fan, optical drives, and general electrical hum from components, including the monitor.

Depending on your system, you may also have one or more case fans. If you have a dual-processor system, add yet another fan. A cutting-edge system may generate heat in the range of 50 to 60 decibels (dBA), similar to a refrigerator. Compare that to a whisper level at 30 dBA, or big city freeway traffic at 70 dBA. Saying that a modern PC is as noisy as a jet taking off may not be far off the mark.

If all this makes you doubt that you have any chance of achieving computing silence in your lifetime, relax. It's been done before. When Apple introduced the iMac, desktop computer five years ago, it was revolutionary in more ways than


one. In addition to vibrant colours and unconventional design, the iMac brought something else, something unheard of, to the desktop: silence. Unlike its PC brethren of the era, the iMac had no CPU cooling fans—it kept its G3 processor at optimal operating temperature with a passive heat sink. If Mac users can benefit from more creative design and attention to silence, then so can PC users.

The big chip manufacturers are aware of the problem. Thermal management without excessive noise is becoming a mantra, though it's still dreamed out by the cry for improved performance. Even Microsoft has identified computer noise as one of the big issues that will need to be addressed in the next few years. And there has been progress. Liquid bearings on hard drives are a huge improvement. Innovative designs in heat sinks and fans are another. Some of the new breed of CPUs and motherboards control fan speed based on CPU load, ensuring the system remains relatively quiet and a breeze to live with.

So, have hope. The silent PC, or at least the relatively quiet PC, is coming, and probably sooner than you think. In the meantime, for those who can't wait, we offer some suggestions for putting a lid on what may be the noisiest member of your household.

For existing systems

- ★ Drawn out the noise: Open up your favourite MP3 player and put on a few tunes. Even 300-level background music is usually enough to drown out the noise from a PC.



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< NEW & NOTABLE >

WHAT'S NEW

Continued from page 54

Easeweb (www.easeweb.com) is jumping on the wireless bandwagon. The Newnan, Ga.-based company has launched what it says is the world's first notebook with an integrated internal broadband GSM/GPRS 900/1800/1900 module, allowing users to connect to the Internet from anywhere they could use their broadband mobile phones.

The Easeweb R1505 World Wireless notebook uses GPRS (General Packet Radio Service), which allows larger, faster data transfers and an "always on" style connection, much like using a Blackberry. In Canada, Price and Rogers offer GSM/GPRS networks.

The notebook includes a Mobile Intel Pentium 4 processor at speeds up to 2.4 GHz, a 12.1-inch TFT screen, up to 1 GB DDR256 DRAM, and up to 60 GB, 5400 rpm hard drive. Buyers can opt for a CDMA connection module instead of the GPRS. The notebook is available from the company's Web site, with prices starting at \$1,549.



If it's possible that someday, home appliances may have better communication skills than many of your family members? GE advertises its new Profile Harmony Clothes Care System with the tagline, "The washer talks. The dryer listens." According to GE, once the wash phases are selected, the washer sends information about the load to the dryer, which then automatically chooses the best settings for drying.

Continued on page 66

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~ NEW & NOTABLE ~

WHAT'S NEW

Continued from page 82



And apparently the appliances' communication skills are not the only qualities that make them good citizens. If, says the washer user, up to 40 percent less water than a traditional top-load machine, automatically adjusting water levels to match the size of the load.

The washer also offers agitator-free washing, a Stain Inspector system and timed release of detergent. Wash add-

ives, and fabric softeners. The dryer uses two motors, two moisture sensors, and two temperature sensors, as well as an extra low delicate temperature setting, according to GE. Suggested retail prices for the gas start at US\$1,999.

The good news about having an iPod is you have access to your music all the time, wherever you go. The bad news is listening to music through headphones is not always a good idea—it can be unsafe while driving and impolite while visiting with friends. So **Griffin Technology** (www.griffintechnology.com) came up with the iTrio.

The iFrip is an FM transmitter that fits into the iPod (an updated model for the new iPhone has just been released) and will broadcast the iPod's music to any frequency on an FM radio, according to Griffin. It draws its power from the iPod battery, and can keep working even while the iPod is docked or charging.

And in this case, being polite doesn't even cost that much. The iTrip's suggested retail price is US\$35.

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